CIGESMED

**CIGESMED:** Coralligenous based Indicators to evaluate and monitor the "**Good Environmental Status**" of the **MEDiterranean coastal waters**

**Sub-task:** Coralligenous Survey in the North - East Mediterranean

**What is it all about?**
The study of coralligenous in the North-East Mediterranean was a subtask of the CIGESMED project. All the activities of the project in the Marine Protected Area of Zakynthos were carried out from March 2013 to June 2016 through the collaboration of the National Marine Park of Zakynthos, the University of the Aegean and the Hellenic Centre of Marine Research.

**What is Coralligenous?**
It is a unique and complex habitat only found in the Mediterranean that develops under dim light conditions. It is primarily created by calcareous red algae which form reef-like structures over marine rocky bottoms.

**Studying the coralligenous habitats**
They are among the richest and most beautiful seascapes to observe during diving in the Mediterranean. Thanks to their complexity, they shelter a great number of ecologically, aesthetically and commercially valuable species, some of which are also protected by National and International Laws. Coralligenous habitats are often threatened by the human activities. Intense anchoring, irresponsible diving, (over)fishing, litter dumping, alongside with sea surface warming (due to climatic change) and alien species invasions, are among the main threats which can induce negative effects on the health status of coralligenous habitats. The main objective of the CIGESMED project was to gain some first insights regarding the links between natural or anthropogenic pressures and ecosystem functioning, in order to define and maintain the Good Environmental Status in the Mediterranean Sea, through the study of coralligenous habitats. Coralligenous habitat in the MPA of N.M.P.Z was found to host rich and diverse communities (47 species in total) of flora and fauna (both invertebrate and fish) species.

**Citizen Science initiative**
Coralligenous habitats are very popular among divers due to their high aesthetic value, increased complexity and conspicuous biological wealth. However, scientific data on their distribution, structure and conservation status of these habitats are still scarce for several areas in the Mediterranean Sea.
Over the last decade, inventoring and monitoring of marine biodiversity has significantly benefited from the active engagement of volunteer observers. In this framework, a multilingual web-page was developed, comprising a user friendly and ready to download observation protocol for underwater use, an online data submission form and an educational platform with additional information on coralligenous habitats. This Citizen Science initiative is primarily focused on dedicated and enthusiastic divers.

**CIGESMED Citizen Science in the N.M.P.Z.**

Testing of the CIGESMED for divers protocol and the associated guidance material was conducted through the involvement of volunteer divers during field trials at selected study sites of CIGESMED within the N.M.P.Z. In order to test the reliability of the protocol and identify possible correction factors for the obtained datasets, the validity of the answers provided by divers was assessed in comparison to those provided by scientists for the same sites. The results showed that the abundances of only few species (e.g. small-sized ones with a patchy/scarcce distribution in the study site) were underestimated. Some pressures also appeared difficult to identify and quantify. Future efforts will focus in the training of less experienced enthusiast divers in order to maximize the number of participants, and in the enhancement of communication between citizen scientists and professional researchers. This will help maintain sufficient long-term data flow.

By participating in the CIGESMED for divers – Citizen Science for CIGESMED project you contribute to the exploration and the conservation of the coralligenous habitats and the marine environment, while at the same you can increase your knowledge about the marine biodiversity. For those who are interested go to the [www.cs.cigesmed.eu](http://www.cs.cigesmed.eu) [1] to become an active member of the CIGESMED Project.

**Monitoring of Coralligenous Habitat in the N.M.P.Z.**

Scientific actions in the MPA of NMPZ during CIGESMED project included:

1. Site exploration for coralligenous communities
2. Characterization and mapping of the selected sites
3. Identification of species recorded in the study sites Implementation of easy methods for biodiversity and good health assessment
Underwater Research station in the N.M.P.Z.

A research station was established in the studied locations of CIGESMED project within the N.M.P.Z for the long-term monitoring of:

1. Coralligenous communities structure
2. Environmental conditions (e.g. temperature profiles from data loggers at different depths)
3. Recording and evaluation of threats (including invasive species)

Data from the research station will contribute to the effective management and conservation of coralligenous habitat in the protected area of the N.M.P.Z.
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Links